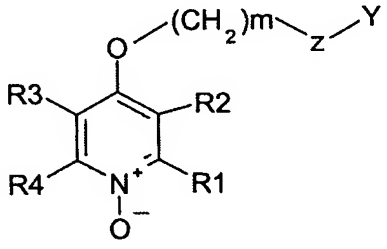
Abstract

A process for preparing substituted pyridine N-oxide compounds of the formula



(I)

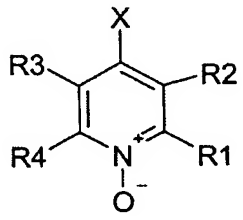
in which R1, R2, R3 and R4 are each H, a carboxyl group or a C_1-C_{12}-alkyl radical which may contain atoms from the group of N, O and S, or R1 and R2 and/or R3 and R4 together may each form an optionally substituted C_4-C_{20}-alkylene radical which may contain atoms from the group of N, O and S,

A is benzyl or a $(CH_2)_m$ group where

m may be an integer from 1 to 12,

Z_1 and Z_2 are each independently O or S, and Y is H, a C_1-C_{12}-alkyl radical which may optionally contain atoms from the group of N, O and S, a C_6-C_{20}-aryl radical or a C_5-C_{20}-heterocycle, and the radicals may optionally be substituted,

or Z_2 and Y together form an optionally substituted ring or ring system, in which case the ring or ring system may contain atoms from the group of N, O and S, from the corresponding 4-halopyridine N-oxide of the formula



(II)

in which X is chlorine, bromine or iodine, by reacting the compound of the formula (II), in the presence of a

phase transfer catalyst and of a base, with a compound of the formula

$$HZ_1\text{-}A\text{-}Z_2\text{-}Y \qquad (III)$$

in which Z_1, Z_2, A and Y are each as defined above, at a temperature up to the reflux temperature, to give the corresponding substituted pyridine N-oxide compound of the formula (I), and also a process for preparing the compound of the formula (II).